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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,940	06/15/2001	Philip H. Fisher	1-22528	7595

4859 7590 11/28/2003

MACMILLAN SOBANSKI & TODD, LLC  
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TOLEDO, OH 43604-1619

EXAMINER

TOATLEY, GREGORY J

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/881,940

Applicant(s)

FISHER ET AL.

Examiner

Gregory J. Toatley, Jr.

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 4-15, 22 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

## DETAILED ACTION

### *Priority*

1. Applicant's claim for domestic priority to provisional application 60/212468 under 35 U.S.C. 119(e) is acknowledged.

### *Specification*

2. The examiner respectfully suggests that the Applicant carefully review the specification for idiomatic and grammatical errors, which may have inadvertently overlooked.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 2 recites the limitation "said input device" in line 2. There is insufficient antecedent basis for this limitation in the claim. The claim should be amended to recite – said input devices – in order to have antecedent basis in the claim.
5. Claim 20 recites the limitation "said isolation device" in line 2. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 21 recites the limitation "said optoisolator transistors". There is insufficient antecedent basis for this limitation in the claim.

### *Art Rejection Rationale*

At the outset, the examiner notes that claims are to be given their broadest reasonable interpretation during prosecution. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); In re Prater, 415 F.2d 1393, 1404, 162 USPQ

541, 550 (CCPA 1969); In re Yamamoto, 740 F.2d 1569, 222 USPQ 934 (Fed. Cir. 1984); Burlington Indus. V. Quigg, 822 F.2d 1581, 3 USPQ2d 1436 (Fed. Cir. 1987); In re Morris, 43 USPQ2d 1753, 1756 (Fed. Cir. 1997). In responding to this Office action, applicants are reminded of the requirements of 37 CFR §§ 1.111 and 1.119 that applicants specifically point out the specific distinctions believed to render the claims patentable over the references in presenting responsive arguments. See M.P.E.P. § 714.02. The support for any amendments made should also be specifically pointed out. See M.P.E.P. § 2163.06.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by the reference of Koeninger (US 5460210 A). The reference of Koeninger discloses A connection device which has a plurality of input devices (*the leads to C1 – C6*) adapted to be connected to at least two signal sources (*C1 – C6*) an output switch (*190*) adapted to be connected to an electrical device; and a device electrically (*AND logic circuit, 50*) connected between said input devices and said switch, said device operative to cause said switch to change from a first state to a second state when there is a signal present at each of said input terminals as claimed.

9. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by the reference of Houseman (US 3711827 A). The reference of Houseman teaches of connection device that has a plurality of input terminals (fig. 2, elements 26 – 32) adapted to be connected to at least two signal sources (18 – 24); and a device connected to said input terminals (34) that is operative to generate and output signal that is a function of a signal appearing at any one of said input terminals.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the reference of Koeninger as applied to claim 1 above, and further in view of the reference of Futsuhara et al. (US 5495228 A). The reference of Koeninger is silent regarding the

use of a rectifier as claimed. The reference of Futsuhara et al. teaches of the use of rectifiers to provide a positive signal to a logic circuit from a signal source that may be positive or negative as is well known in the art. It would have been obvious to one having ordinary skill in the art to incorporate the signal rectification teaching of the reference of Futsuhara et al. in the invention of Koeninger in order to provide a AND logic circuit which is able to be responsive to source signals of various types. The claim calls for a "rectifier bridge circuit", and the reference is not specific in the type of rectifier circuit, however it would have been an obvious matter of design choice to use any type of rectifying circuit, since applicant has not disclosed that the bridge rectifier solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any type of rectifier.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the reference of Houseman as applied to claim 16 above, and further in view of the reference of Futsuhara et al. (US 5495228 A). The reference of Houseman is silent regarding the use of a rectifier as claimed. The reference of Futsuhara et al. teaches of the use of rectifiers to provide a positive signal to a logic circuit from a signal source that may be positive or negative as is well known in the art. It would have been obvious to one having ordinary skill in the art to incorporate the signal rectification teaching of the reference of Futsuhara et al. in the invention of Koeninger in order to provide a AND logic circuit which is able to be responsive to source signals of various types. The claim calls for a "rectifier bridge circuit", and the reference is not specific in the type of rectifier circuit, however it would have been an obvious matter of design choice to use any type

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of rectifying circuit, since applicant has not disclosed that the bridge rectifier solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any type of rectifier. The reference of Houseman is additionally silent regarding the use of a LED as an indication of the presence of a signal as claimed. The examiner wishes to take Official Notice of the fact that the use of LED to indicate signal presence is well known. It would have been obvious to one having ordinary skill in the art to use an LED in combination with the invention of Houseman modified by the teaching of Futsuhara et al. in order to give a user a visual indication of the presence of a signal in an electrical device.

14. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference of Koeninger in combination with the teachings of the reference of Futsuhara et al. The reference of Koeninger teaches of a connection device as described in reference to claim 1. The reference of Koeninger is silent regarding the use of an input capable of receiving a sink current (-), source current (+) or dry contact (null) signal as claimed in claim 18 and the input device including a bridge rectifier as claimed in claim 19. The reference of Futsuhara et al. teaches of the use of rectifiers to provide a positive signal to a logic circuit from a signal source that may be positive or negative as is well known in the art. It would have been obvious to one having ordinary skill in the art to incorporate the signal rectification teaching of the reference of Futsuhara et al. in the invention of Koeninger in order to provide a AND logic circuit which is able to be responsive to source signals of various types (positive, negative and null). The claim calls for a "rectifier bridge circuit", and the reference is not specific in

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the type of rectifier circuit, however it would have been an obvious matter of design choice to use any type of rectifying circuit, since applicant has not disclosed that the bridge rectifier solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any type of rectifier.

***Allowable Subject Matter***

15. Claims 4 – 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 20 - 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and the rejections of claims 20 and 21 based upon 35 USC 112 being overcome.

17. The following is a statement of reasons for the indication of allowable subject matter: While the use of optoisolation transistors is well known, their use would not have been obvious in combination with the elements as claimed in order to provide the logic circuit with added protection from an transient signals (i.e. false positive, negative or null) which would adversely effect the operation of the connection circuit.

***Pertinent Prior Art***

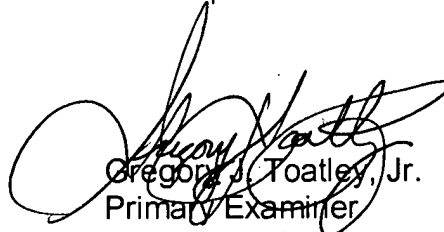
18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art sensor devices that may anticipate or obviate the claims of the applicant's invention.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory J. Toatley, Jr. whose telephone number is 703-308-7889. The examiner can normally be reached on Mon. - Fri. 7:00 a.m. to 3 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (703) 308-3119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.



Gregory J. Toatley, Jr.  
Primary Examiner  
Art Unit 2836

GJT Jr.